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## **MEMORANDUM**

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From: John N. Warfield

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Subject: Proposal to the President of Nigeria

Representative forms of government face today challenges of much greater complexity than in earlier times. All societies have become much more interdependent than in those earlier times, with the result that the complexity of issues facing governments has escalated greatly. Unfortunately the organization and conduct of representative government has not changed to keep pace with the escalating complexity. The mechanisms currently being used to develop and implement policy are not very different from those stemming from earlier centuries; even though the means of communication and transportation have become so sophisticated that the governments seem able to convey the impression of functionality.

All representative governments today have a common need: a center staffed with people who are highly-trained in the science of design and in ways to apply this science effectively in the development, communication, and implementation of public policy. No government has yet recognized this need and taken the appropriate action. Instead representative governments tend to rely on (a) a strange mix of analyses coming from "think tanks" staffed with people who have had no significant education in system design, and do not generally even know how to represent systems in ways that communicate effectively about them and (b) short term analyses carried out by the staffs of elected representatives or executives and intuition of those who were elected.

The consequences of the foregoing are become more clear every year. In the U. S. A., for example, the percentage of the electorate who vote is growing steadily smaller, and confidence in those who are elected is steadily diminishing. The public tends to see elections as the choice of a lesser evil. As a result the ability of elected officials to govern tends to decline because of lack of dedicated followers who believe in the proposals of those elected officials. It is only the memories of such dictatorships as those of Stalin and Hitler that tend to stand in the way of more drastic action. The public tends to agree with Churchill that while democracy is not a good system of government, it is nevertheless the best of the systems that are available.

What is required today is to upgrade the quality of democratic government by creating an institution to support elected officials with specific policy designs. These policy designs should be presented in such a way that (a) they communicate to the citizenry effectively and provide a sense of careful consideration, (b) they can be continuously displayed and continuously upgraded as conditions change, and (c) they provide uniform understanding to government and the public alike, providing the means for developing concentrated action by both groups.

Still another problem besets democratic governments: the lack of leadership that is adequate to meet the challenges of the times. Such leadership today must be measured against its willingness to apply the most highly developed products of study to make government effective and responsible. An opportunity exists now for any leader who is serious about establishing representative government and making it responsive and effective to take the international lead in applying the science of design to the construction, representation, communication, and implementation of high-quality public policy. This occurs because of the development, over the last twenty years, of the science of generic design and its implementing system called Interactive Management. This development makes possible significant participation by individuals at all levels of government in the development of public policy appropriate to the various levels. If instituted at the national level, and if carried out in a dedicated and informed way, one can expect that it will be gradually adopted at all other levels of government, and that it can even become a model for governments in other countries who have not yet achieved such possibilities.

In order to make this possible, it becomes necessary to authorize, finance, and provide high-level support for a new kind of institution: a policy design institute. Moreover, it will be critical to select each member of such an institute with great care, in order to avoid having it become simply a replica of research institutes world wide who are primarily devoted to publishing or analyzing, rather than designing and assisting in implementing.

It will also be necessary to provide education and training to the selected staff, in order that they can learn the science of generic design, and learn how to practice Interactive Management in the design of public policy.

Given that this approach is intended to make dramatic changes in the way government functions, one should expect that the development of a policy design institute, including the selection and education of personnel, cannot be accomplished overnight. Instead, a phased development should be expected. However this does not mean that results cannot be achieved fairly soon.

There already exist, worldwide, individuals who have become acquainted with the approach mentioned and have been applying it experimentally to assist government personnel. While they have not yet made inroads at the top of government, they have made achievements that are sufficient to promote high confidence in the recommended approach. These individuals

could not only take part in the selection, education, and training of staff, but they could also assist the selected personnel in the early conduct of policy design activity, as part of the education involved. This would allow the sponsoring executives to begin to show benefits in the first year of the activity. In order to make this possible, the executive would have to commit immediately to the construction and financing of the necessary facilities for conducting Interactive Management workshops. This will involve a facilities expense of at least \$100,000 (US Money). Also the executive would have to smooth the way quickly for interview and selection of staff for the policy design institute, in order that the training and workshop activity could begin very soon. The executive would also have to make available space for housing and training, and provide funds to support the education and training over a period of two years. This funding could be provided in two stages. Funding for the first year could approach \$1,000,000 for the training and conduct of the workshops, in view of the significant amount of travel and local accomodations involved, as well as the time of those who would be involved in management, interaction with highest-level Nigerian officials, selecting the institute staff, advising on the facility design, conducting the training, and conducting the workshop activity.

In summary: an opportunity exists for a national government to display worldwide leadership in developing a policy design institute to support the effective conduct of representative government. The knowledge base required for doing so is already available in the published literature, and sufficient experience has been gained in applying the knowledge base to give significant credibility to the likelihood of success. Whether success can actually be attained will depend on the quality, dedication, and continuity of support at the highest national level to those who would be contracted to carry out what is proposed.

Appendix. List of Past Applications of Interactive Management based in the Science of Generic Design.

## SOME APPLICATIONS OF INTERACTIVE MANAGEMENT

No.	Type of Application	Managing Actor(s) or Organization(s) or Both
1	Systemwide Planning for Analytical Powertrain (1992)	Dr. Scott Staley, Ford Motor Company Research Laboratory, Dearborn, MI
2	Design of the Strategic, Managerial, and Operational Plans for the National Oceanic and Atmospheric Administration (NOAA) Coastwatch Program's Inter-Agency Satellite Ocean Color Project (1992)	Dr. Alexander Christakis; Christakis, Whitehouse, and Associates, Ltd., (CWA), Berwyn, PA

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3	Definition of Stakeholder Issues to be Considered in the Development of a Comprehensive Fishery Management Plan for Pacific Coastal Pelagic Fisheries (1992)	David J. Mackett, Southwest Fisheries Science Center (SWFSC), La Jolla, California
4	Make-or-Buy Decision Process for \$250M silicon foundry (1992)	Dr. Cliff Saunders, Tandem Communications (TC), Ottawa, Ontario, Canada
5	Redefinition of Mandate for Large Software House (1992)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
6	Requirements Analysis and Mission Definition for Government Department (1992)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
7	Development and Implementation of Large Multi- Stakeholder Project Plan for a Canadian University (1992)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
8	Design of International Recruiting Campaign for Multinational Company (1992)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
9	Designing an Action Plan in Anticipation of Bringing a Pharmaceutical Product to the Market With Speed and Prudence (1992)	Dr. Alexander Christakis and Mr. Robert J. Whitehouse (CWA), Berwyn, PA, and Schering-Plough, Inc.
10	Policy Directives for a Telecommunications Holding Company (1992)	Dr. James Wright, University of São Paulo (USP) Brasil, Prof. Bruce Johnson, Fundação Instituto de Administração (FIA)-USP; TELEBRAS
11	Intervention in a Building Services Co-Partnership (1992)	Prof. Derek Hitchins, Royal Military College of Science, (RMCS), Shrivenham, England

12	Community-Based Design for the Future of the Pawnee (Oklahoma) Tribe: Problem Definition, Vision Statement, and Integrated Plan (1992)	Iola Hayden, Oklahomans for Indian Opportunity (OIO), Normal, Oklahoma & Benjamin J. Broome, Communication Department, George Mason University (GMU)
13	Community-Based Design for the Future of the Apache (Oklahoma) Tribe: Problem Definition, Vision Statement, and Integrated Plan (1992)	Iola Hayden (OIO) and Benjamin J. Broome (GMU)
14	Planning a Hospital's Growth to the Year 2000 (1992)	Dr. James Wright, USP and HCRP
15	Impact of Information Technology on Organisation Structures and Processes (1991-1992)	Mr. S. K. Batra, Tata Consultancy Services (TCS), as part of doctorate work on the subject
16	Designing a Strategic Plan for Privatizing Three Companies in Greece (1991)	Dr. Alexander Christakis (CWA), Berwyn, PA, and Spyros Megápanos, EUROTRANSFORM, Athens, Greece
17	Designing Improvements for the Human Performance Enhancement Systems of Niagara- Mohawk Power Company (1991)	Dr. Alexander Christakis (CWA), Berwyn, PA and Paul Wilde, Niagara-Mohawk Power Company, Syracuse, NY
18	Social and Economic Development in the Area of the New Bridge Between the U. S. A. and Mexico (1991)	Carmen Moreno, Roxana Cárdenas, Instituto Tecnologico y de Estudios Superiores de Monterrey (ITESM), Monterrey, N. L., MexicoFIDENOR
19	Planning for a Total Quality Program at Química del Rey, S. A. (1991)	Carmen Moreno, Carlos Villanueva, ITESMQuímica del Rey
20	Development of Objectives and Intent Structures for an Urban Police Force (1991)	Prof. Derek Hitchins, RMCS, Shrivenham, England

21	North American Defense Industrial Base Critical Technologies Workshop (1991)	Prof. Henry Alberts, Defense Systems Management College (DSMC), Fort Belvoir, VA
22	Concurrent Engineering Workshop (1991)	Professor Henry Alberts, DSMC
23	Contractor Integrated Technical Information Service (CITIS) Workshop (1991)	Professor Henry Alberts, DSMC
24	Defense Industrial Base Workshop (1991)	Professor Henry Alberts, DSMC
25	Klamath River Basin Fisheries Task Force: Design of a Watershed-based Task Force Management System for Carrying out the Klamath River Basin Fishery Restoration Program (1991)	David J. Mackett, SWFSC, La Jolla, CA
26	Klamath River Basin Fisheries Task Force: Definition of Priorities for Implementing Policies of the "Long-range Restoration Plan" (1991)	David J. Mackett, SWFSC, La Jolla, CA
27	Design of an Inter-Agency Cooperative System for Planning and Execution of Tuna Research and Management in Response to Changes in the Magnuson Fisheries Conservation and Management Act (1991)	David J. Mackett, SWFSC, La Jolla, CA
28	Design of an Improved Planning and Budgeting System for the National Marine Fisheries Service (1991)	David J. Mackett, SWFSC, La Jolla, CA
29	Department of Defense Fuze Industry Workshop (1991)	Dr. Alexander Christakis and Mr. David Dierolf, Institute for Defense Analyses (IDA)
30	Planning for the Department of Systems Science at City University (London, England) (1991)	Ross Janes, Ken Hammer, Interactive Management Unit (IMU), City University (London, England)
31	Strategy for Developing Critical Technical Expertise for Hand Tool Manufacturer (1991)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada

32	Product Enhancement Plan Based on 1,000 Ideas Generated from Focus Groups (1991)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
33	Objectives for the Electric Utility R&D Center (1991)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP; CEPEL
34	Community-Based Design for the Future of the Cheyenne/Arapaho (Oklahoma) Tribe: Problem Definition, Vision Statement, and Integrated Plan (1991)	Iola Hayden, OIO & Benjamin J. Broome, GMU
35	Promoting Greater Participation in Comanche Tribal Governance (1991)	Ladonna Harris, Americans for Indian Opportnity (AIO), Washington, D. C., and Benjamin J. Broome, GMU
36	Design of a Tribal Issues Management System (1991)	Ladonna Harris, AIO, Iola Hayden, OIO, and Benjamin J. Broome, GMU
37	Proposal for the Restructuring of the Port of Santos (1991)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP; Longshoremens' Union
38	Implications of Vocational Training for Advanced Technology in India (1990-1991)	S. K. Batra of TCS; International Labor Organisation/Asian and Pacific Skills Development Programme
39	Impact of Telecommunication and Data Services on Software Services (1990-1991)	S. K. Batra of TCS; Atwater Institute, Montreal, Canada
40	Development of Integrated Cooperative Development Project for Two Districts of a State of India (1990- 1991)	S. K. Batra, TCS; and Department of Cooperatives of the Government of Himachal Pradesh, India

41	Developing Systems Education at the ITESM System (1990-1991)	Carmen Moreno, Roxana Cárdenas, ITESM
42	Redesigning the Defense Acquisition System (1990-91)	Prof. Henry Alberts, (DSMC) and Dr. Alexander Christakis, CWA, Berwyn, PA
43	Operational Planning at the International Division of BANORTE (1990)	Ma. Carmen Temblador, Carlos Villanueva, Roxana Cárdenas, ITESM BANORTE
44	Strategy Setting for a Telecommunications Equipment Manufacturer (1990)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP, NEC do Brasil
45	Establishing an Industrial Policy for the Electric Utilities Sector (1990)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP; ELETROBRAS
46	Directives for Restructuring a Medical School Curriculum (1990)	Dr. James Wright, USP; FMRP-USP
47	Characteristics and Identity of the Organization Development Group of a Professional Management Consultancy (1990)	Ross Janes, Keith Ellis, Ken Hammer, IMU, City University
48	Investigation of Nuclear Unit 2 Design Issues (1990)	Dr. Alexander Christakis (CWA), Berwyn, PA, and Jack Benson, Niagara-Mohawk Power Corporation, Syracuse
49	Klamath Fishery Management Council: Strategic Plan for the Management of the Harvest of Anadromous Fish Populations of the Klamath River Basin (1990)	David J. Mackett, SWFSC, La Jolla, CA
50	Smart Munitions Acquisition Management (1990)	Dr. Alexander Christakis, Center for Interactive Management (CIM), George Mason University (GMU)
51	Architecture of a New Object-Oriented Programming Language (1990)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada

52	Objectives and Priorities for a Quality Program in a Regional Bank in the United Kingdom (1990)	Richard Jeffery, PA Consulting Group, London, England
53	Problem Definition and Goal Setting for the Economic Future of the Menominee Tribe (1990)	Ladonna Harris, AIO, and Benjamin J. Broome, GMU
54	Problem Definition and Resolution for Comanche Tribe (1990)	Ladonna Harris, AIO; Kenneth Saupity, Comanche Tribe; and Benjamin J. Broome, GMU
55	Broadcasting Standards Set for a National Body (1990)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
56	Diagnostic Study on the Energy Sector of Ghana (1989)	S. K. Batra, TCS, and the Technology Transfer Centre, Council of Scientific and Industrial Research, Ghana
57	Designing a University Centre for Enterprise Management (1989)	Ross Janes, Prof. Derek Hitchins, Richard Jeffery, Ken Hammer, IMU, City University
58	Issues, Objectives, and Priorities for a University Department of Civil Engineering (1989)	Ross Janes, Ken Hammer, Richard Jeffery, IMU, City University
59	Solutions and Priorities for a Community-Based Speech Therapy Service in a Health Authority (1989)	Richard Jeffery, Ross Janes, Ken Hammer, IMU, City University
60	Strategic Plan for Research Needed to Meet the Goals of the Convention for the Conservation of Antarctic Marine Living Resources by the Year 2000 (1989)	David J. Mackett, SWFSC, La Jolla, CA
61	Design of a United States Agency for International Development Program for Developing and Maintaining Viable Fisheries in Developing Countries Utilizing Fish Aggregating Devices (FADs) (1989)	David J. Mackett, SWFSC, La Jolla, CA

62	Design of an Administrative Information Management System for the Southwest Fisheries Science Center (1989)	David J. Mackett, SWFSC, La Jolla, CA
63	Research Initiatives in the Photonics Field (1989)	Dr. David Keever, CIM, GMU
64	Implementation Plan for Organizational Redesign (1989)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
65	Identification of New Product Opportunities Based on "Lead User" Studies (1989)	Dr. Cliff Saunders, TC, Ottawa, Ontario, Canada
66	Forum on the Future of Pediatric Nursing: Looking Toward the 21st Century (1988)	Dr. Alexander Christakis, CIM, GMU, and Professor Veronica Feeg, Department of Nursing, GMU
67	Planning for the Short Course Unit of City University (1988)	Richard Jeffery, Ross Janes, IMU, City University
68	Setting Requirements and Priorities for a Speech Therapy Service in a District Health Authority (1988)	Richard Jeffery, Ross Janes, IMU, City University
69	Long-Range Planning Guidebook for the Communication Department, George Mason University (1988)	Dr. Benjamin J. Broome, and Dr. Don Boileau, Communication Dept., GMU
70	Developing a Design Culture in Higher Education (1988)	Dr. Alexander Christakis, CIM, GMU, and Dr. Ioanna Tsivakou, University of the Aegean
71	Shared Governance in Selected Pennsylvania School Districts (1988)	Dr. Alexander Christakis, CIM, GMU
72	Human Service Needs: Setting Priorities for Fairfax/Falls Church United Way (1988)	Dr. Alexander Christakis, CIM, GMU
73	National Atmospheric Administration/National Marine Fisheries Service Program Development Plan for the California Current and the Pacific Oceanic Regional Marine Ecosystems (1988)	David J. Mackett, SWFSC, La Jolla, CA

74	Design of the SWFSC's Eastern Tropical Pacific Dolphin Survey (1988)	David J. Mackett, SWFSC, La Jolla, CA
75	Operational Plan for National Marine Fisheries Service Research on the Demersal Fishery Resources of the California Current Ecosystem (1988)	David J. Mackett, SWFSC, La Jolla, CA
76	Joint US/Canada Strategic Plan for Research on the International Squid Drift-Gillnet Fishery and Protected Species Entanglement Problem in the North Pacific (1988)	David J. Mackett, SWFSC, La Jolla, CA
77	Business Planning Workshop for the Regional Managers of an Industrial Training Board (1987)	Ross Janes, Keith Ellis, Department of Systems Sciences (DSS), City University (London)
78	Priority Setting for a County's Highway Scheme (1987)	Ross Janes, DSS, City University (London)
79	Department Chain Objectives (1987)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP, SUSA Group
80	Operational Plan for SWFSC Research on Tunas and Large Pelagics (1987)	David J. Mackett, SWFSC, La Jolla, CA
81	Strategic Plan for a Joint State of California/National Marine Fisheries Service Program for Marine Recreational Fisheries (1987)	David J. Mackett, SWFSC, La Jolla, CA
82	Operational Plan for Improving the Availability to the Scientific Community of the Historical Ichthyoplankton Data Base of the California Cooperative Oceanic Fisheries Investigation (1987)	David J. Mackett, SWFSC, La Jolla, CA
83	American Public Power Association Fuel Cell Market Workshop (1987)	Dr. Alexander Christakis, CIM, GMU
84	Building a Consensus on a Winnebago Self-Sufficiency Plan (1987)	Ladonna Harris, AIO; Reuben Snake, Chairman, Winnebago Tribe; and Dr. Alexander Christakis, CIM, GMU

85	Designing a Computer Science Curriculum for the 21st Century (1987)	Dr. John N. Warfield, Dr. Alexander Christakis, and Dr. David Keever, CIM, GMU
86	Planning for the Department of Systems Science at City University (1986)	Ross Janes, DSS, City University (London)
87	Strategic Planning for the National Marine Fisheries Service's Research Program on Tuna Resources (1986)	David J. Mackett, SWFSC, La Jolla, CA
88	Strategic Objectives for the São Paulo State Bank - BANESPA (1986)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP; BANESPA
89	Operational Planning for the Analysis of Tuna Vessel Observer Data for Porpoise Stock Assessment (1986)	David J. Mackett, SWFSC, La Jolla, CA
90	Investigation of Forces of Change in the Hawaiian Aku (Skipjack Tuna) Fishery (1986)	David J. Mackett, SWFSC, La Jolla, CA
91	Moving Toward a Consensus for Nursing in Virginia (1986)	Dr. Alexander Christakis, CIM, GMU
92	Redesigning the National Marine Fisheries Service for the 1990's (1986)	Dr. Alexander Christakis, CIM, GMU
93	Identifying and Mapping Tribal Governance Issues (1986)	Ladonna Harris, AIO and Dr. Alexander Christakis, CIM, GMU
94	Southwest Fisheries Science Center's Affirmative Action Plan (1986)	David J. Mackett, SWFSC, La Jolla, CA
95	Planning for an Industrial Training Board Development Team (1985)	Ross Janes, DSS, City University (London)
96	Setting and Structuring Objectives for an Industrial Training Board Fellowship Program (1985)	Ross Janes, Prof. Philip M'Pherson, DSS, City University (London)
97	Factors Affecting the Expansion of a Military Reserve Force (1985)	Ross Janes, Brian McCormack, DSS, City University (London)

98	Planning for the Management Support Department of a City Police Force (1985)	Ross Janes, Prof. Philip M'Pherson, DSS, City University (London)
99	Tuna Fisheries Forum (1985)	Dr. Alexander Christakis, CIM, GMU, and Mr. David Mackett, SWFSC, La Jolla, CA
100	Agricultural Research Service Management Retreat (1985)	Dr. Alexander Christakis, Interactive Management Corporation
101	Operational Plan for the Southwest Fisheries Science Center's Pacific Coast Groundfish Research Program at Tiburon and La Jolla, CA (1985)	David J. Mackett, SWFSC, La Jolla, CA
102	Strategic and Operational Planning for a Joint State of California/National Marine Fisheries Service Program for Research and Management of Coastal Marine Mammals (1985)	David J. Mackett, SWFSC, La Jolla, CA
103	Strategic and Operational Plan for a Research Program on the Fisher Resources of Pacific Seamounts (1985)	David J. Mackett, SWFSC, La Jolla, CA
104	Strategic Plan for Fisheries Habitat Research and Conservation in Hawaii (1985)	David J. Mackett, SWFSC, La Jolla, CA
105	Planning for a Technical Advisory Committee of a Professional Engineering Institution (1984)	Ross Janes, Prof. Philip M'Pherson, DSS, City University (London)
106	Strategic Planning for the National Fisheries Service's Pacific Coast Groundfish Research and Management Program (1984)	David J. Mackett, SWFSC, La Jolla, CA
107	Plan for Research Program for the Recovery of the Endangered Hawaiian Monk Seal (1984)	David J. Mackett, SWFSC, La Jolla, CA
108	Strategic Planning for the New Management Regime for the Tuna/Porpoise Fishery (1984)	David J. Mackett, SWFSC, La Jolla, CA
109	Non-Industrial Private Forest Lands Forum-Issues, Options and Responsibilities, U. S. Forest Service (1983)	Dr. Alexander Christakis, CIM, University of Virginia, and Mr. Robert McDonald, U. S. Forest Service

110	Sugar Cane Harvest ExtensionBottlenecks and Critical Issues (1983)	Dr. James Wright, USP, Prof. Bruce Johnson, FIA- USP; IAA-MIC
111	Definition of the Mission of the Southwest Fisheries Science Center and the Development of the Strategy for Carrying it Out (1982)	Dr. Alexander Christakis, CIM, University of Virginia and David J. Mackett, SWFSC, La Jolla, CA
112	Business School Curriculum: Course Precedence Requirements (1982)	Dr. James Wright, USP
113	Impacts of Brazil's Fuel Alcohol Program (1981)	Dr. James Wright, USP
114	Long-Range Planning Workshop for Saudi Arabian National Center for Science and Technology (SANCST) (1980)	J. N. Warfield, R. L. Waller, K. Kawamura, and Hashim Yemani of SANCST
115	Making Decisions on Reducing Public Expenditures: Kent City Council (1979)	Dr. Carl Moore, Kent State University, Kent, OH
116	Structure of Technology Assessment (1975)	Dr. Alexander Christakis and Sherry Arnstein, Academy for Contemporary Problems, Columbus, OH
117	Management of the Learning Disabled (1975)	Dr. Robert J. Waller, Univ. of No. Iowa, Cedar Falls, IA
118	Climax Agriculture in the Sahel Region of Africa (1975)	Professors Zamierowski, Hornbach, and Fitz, Univ. of Dayton, Dayton, OH
119	Priority-Setting in Urban Systems Management (1974)	Dr. Robert J. Waller, Univ. of No. Iowa, Cedar Falls, IA
120	Transportation Planning for Dayton, Ohio (1974)	Brother Raymond Fitz, Kettering Foundation, Dayton, OH